

but their presence seems to have nothing to do with the transition phenomena. The prevailing type of transition, present in all the smaller seedlings, is VAN TIEGHEM'S type 3. Internal phloem was present in all the Solanaceae and Convolvulaceae examined, with a few possible exceptions.—J. M. C.

A disease of sugar cane.—The sugar plantations of Hawaii have suffered greater loss from an endemic disease called "iliau" than from all other fungous diseases combined. LYON, now at the Experiment Station of the Hawaiian Sugar Planters' Association, has investigated the disease³⁰ and finds that the causal organism is a new species of *Gnomonia* (*G. iliau*), the imperfect stage being *Melanconium*. The *Gnomonia* form is infrequent, while the *Melanconium* form is of constant occurrence. It is a leaf-sheath disease, and its attack makes it a disease of young shoots only. The entrance is effected through the leaf-bases inserted on the stem below the soil surface, and thence it extends upward and inward. The tightly packed roll of leaf-sheaths surrounding the young stem-tip is cemented into a rigid cone, so that it is impossible for the stem-tip to escape.—J. M. C.

Diaphragms in air passages.—LE BLANC³¹ has reviewed the literature on the diaphragms occurring in various aquatic plants and examined other species in order to discover the origin, manner of development, and function of these organs. One of the most peculiar features of these plates is the occurrence of perforations in the form of peculiar intercellular spaces caused by the diminution of the cell contents and the consequent contraction of the cells. These perforations permit free gas exchange and yet do not greatly detract from the rigidity of the diaphragms. The diaphragms do not seem to be due to any reaction toward the aquatic medium in which the plants develop, and appear to be a portion of the mechanical tissue system occasionally containing some reserve food materials.—GEO. D. FULLER.

Algae of Colorado.—ROBBINS³² has published a list of the algae of Colorado, which brings together all the recorded species and the additions made by the author during three years of investigation. The result is a list of 143 species, including 38 Cyanophyceae and 105 Chlorophyceae. *Spirogyra*, with 14 species, is the largest genus.

The same author³³ has investigated also the occurrence of algae in certain

³⁰ LYON, H. L., Iliau, an endemic cane disease. Exper. Sta. (Hawaii) Bull. 11. pp. 32. figs. 10. pl. 1 (colored). 1912.

³¹ LE BLANC, M., Sur les diaphragmes des canaux aérifères des plantes. Rev. Gén. Bot. 24:233-243. 1912.

³² ROBBINS, W. W., Preliminary list of the algae of Colorado. Univ. Colorado Studies 9:105-118. 1912.

³³ ———, Algae in some Colorado soils. Col. Agric. Exper. Sta. Bull. 184. pp. 24-36. pls. 4. 1912.